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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,957	08/07/2001	Monica Minden	HRL035	2002
28848	7590	06/17/2004	EXAMINER	
TOPE-MCKAY & ASSOCIATES 23852 PACIFIC COAST HIGHWAY #311 MALIBU, CA 90265			RODRIGUEZ, ARMANDO	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/924,957	<b>Applicant(s)</b> MINDEN ET AL.	
	<b>Examiner</b> ARMANDO RODRIGUEZ	<b>Art Unit</b> 2828	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, see pages 2 and 3, filed March 22, 2004, with respect to the rejection(s) of claim(s) 1-24 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tumminelli et al (PN 5,166,940).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tumminelli et al (PN 5,166,940) in view of Messerly et al (PN 5,056,888), Asthana et al (PN 5,031,993) and Starodubov et al (PN 5,745,617).

Regarding claims 1, 9 and 17,

Tumminelli et al illustrates in figure 14 a ring fiber laser (90) having gratings (92), (94), (96), (98) and (100), as described in column 5 lines 12-16. In column 1 lines 64-65 discloses the gratings as Bragg gratings and in column 4 lines 31-34 discloses the Bragg grating created by a photorefractive technique.

In page 2 of applicant's specification it is disclosed that fiber gratings have natural birefringence and in the abstract Asthana et al discloses the Bragg gratings having alternating birefringence.

Tumminelli et al does illustrate a similar structure as claimed but is silent as to the structure providing single polarization.

However, Messerly et al discusses of known prior art to York Technologies of obtaining a single-mode, single polarization optical fiber by having a tightly coiled fiber combined with induced birefringence causes one polarization to be attenuated, as described in column 1 lines 18-25.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of York Technologies to the fiber laser of Tumminelli et al because the ring fiber laser having the birefringence provided by the gratings along the ring will attenuate one polarization, by tightening the ring fiber laser as suggested by York Technologies.

Regarding claims 2,10,18,

Tumminelli et al discloses a photorefractive technique to create the gratings but does not disclose using a phase mask.

Starodubov et al discloses the use of a phase mask (30) for inducing gratings (12) into optical fiber (10), as illustrated in figure 1 and described in column 6 lines 16-20.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the induced grating technique disclosed by Starodubov et

Art Unit: 2828

al to the fiber laser of Tumminelli et al because it provides a simplified grating induction technique, as suggested in the abstract.

Regarding claims 3,11,19,

Tumminelli et al does not disclose using an argon laser having a wavelength of 334 nm.

Starodubov et al discloses the use of a phase mask (30) for inducing gratings (12) into optical fiber (10), as illustrated in figure 1 and described in column 6 lines 16-20. In column 6 lines 31-35 discloses the laser (20) as argon laser with a wavelength of 334 nm.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the induced grating technique disclosed by Starodubov et al to the fiber laser of Tumminelli et al because it provides a simplified grating induction technique, as suggested in the abstract.

Regarding claim 4,12,20,

Tumminelli et al does not disclose using a lens prior to the phase mask.

Starodubov et al discloses the use of a phase mask (30) for inducing gratings (12) into optical fiber (10), as illustrated in figure 1 and described in column 6 lines 16-20. In column 6 lines 31-35 discloses the laser (20) as argon laser with a wavelength of 334 nm. Figure 1 illustrated a focusing lens (22) disposed between the phase mask and the laser source.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the induced grating technique disclosed by Starodubov et

al to the fiber laser of Tumminelli et al because it provides a simplified grating induction technique, as suggested in the abstract.

Regarding claim 5,13,21,

Tumminelli et al does not disclose using a glass slide between the phase mask and the fiber to protect the phase mask.

Starodubov et al discloses the use of a phase mask (30) for inducing gratings (12) into optical fiber (10), as illustrated in figure 1 and described in column 6 lines 16-20. In column 6 lines 31-35 discloses the laser (20) as argon laser with a wavelength of 334 nm. Figure 1 illustrated a glass shield (36) disposed between the phase mask and the fiber to shield the phase mask.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the induced grating technique disclosed by Starodubov et al to the fiber laser of Tumminelli et al because it provides a simplified grating induction technique, as suggested in the abstract.

Regarding claim 6,14,22,

Tumminelli et al illustrates in figure 14 a ring fiber laser (90), which is a complete loop.

Regarding claim 7,15,23,

In column 2 lines 23-26 discloses doping the fiber with a rare earth, as neodymium or erbium.

Regarding claim 8,16,24,

Tumminelli et al does not disclose using an argon laser having a wavelength of between 320 nm and 340 nm.

Starodubov et al discloses the use of a phase mask (30) for inducing gratings (12) into optical fiber (10), as illustrated in figure 1 and described in column 6 lines 16-20. In column 6 lines 31-35 discloses the laser (20) as argon laser with a wavelength of 334 nm.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the induced grating technique disclosed by Starodubov et al to the fiber laser of Tumminelli et al because it provides a simplified grating induction technique, as suggested in the abstract.

### ***Conclusion***

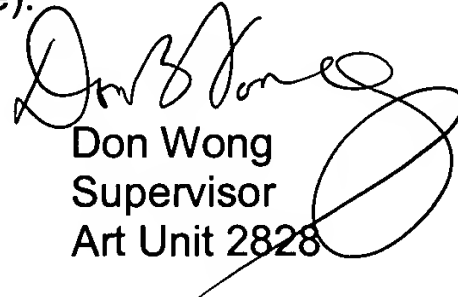
Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARMANDO RODRIGUEZ whose telephone number is 571-272-1952. The examiner can normally be reached on 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DON WONG can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2828

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
ARMANDO RODRIGUEZ  
Examiner  
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Supervisor  
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AR/DW